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Figure 1:

Query= INSP097_pep (1446 letters)

Database: All non-redundant GenBank CDS translations+PDB+SwissProt+PIR+PRF

1,039,285 sequences; 328,747,273 total letters

Searching......done

	scor	e E
Sequences producing significant alignments:	(bit	s) Value
ref[XP_132895.1] (XM_132895) similar to ovomacroglo	bulin, ovosta 15	0.0
ref[XP_090334.2] (XM_090334) similar to ovostatin p	recursor - ch 15	42 0.0
emb CAA55385.1 (X78801) ovomacroglobulin, ovostati	.n [Gallus gal 12	0.0
sp)P20740 OVOS_CHICK OVOSTATIN PRECURSOR (OVOMACROC	GLOBULIN) >gi 12	0.0
ref NP_036620.1 (NM_012488) alpha-2-macroglobulin	[Rattus norve 10	0.0
ref NP_000005.1 (NM_000014) alpha 2 macroglobulin		0.0
prf 1009174A macroglobulin alpha2 [Homo sapiens]		0.0
pir JC5143 alpha-macroglobulin precursor - guinea	pig >gi 13040	991 0.0
ref NP_002855.1 (NM_002864) pregnancy-zone protein		989 0.0
gb AAB51432.1 (L63543) endodermin [Xenopus laevis		0.0

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Figure 2:

>emb|CAA55385.1| (X78801) ovomacroglobulin, ovostatin [Gallus gallus]
Length = 1454

Score = 1206 bits (3121), Expect = 0.0Identities = 641/1459 (43%), Positives = 928/1459 (62%), Gaps = 34/1459 (2%) MWKIIHLGVFLFHLSLSQSPNLQYVLLIPSVLQEGSLDKACAQLFNLTESVVLTVSLNYG 60 Query: 1 L + L H + + P QYVL++P+VLQ S + C Q FNL +++ + V L Y Sbjct: 1 MWLKFILAILLLHAAAGKEPEPQYVLMVPAVLQSDSPSQVCLQFFNLNQTISVRVVLEYD 60 Query: 61 EVQTKIFEENVTGENFFKCISFEVPQARSDPLAFITFSAKGATLNLEERRSVAIRSRENV 120 + T IFE+N T N +C++F +P S LAFI+F+AKG T +L+ERRSV I + E+ Sbjct: 61 TINTTIFEKNTTTSNGLQCLNFMIPPVTSVSLAFISFTAKGTTFDLKERRSVMIWNMESF 120 Query: 121 VFVQTDKPTYKPGQKEKKTLSSYINIIFIFISVSSDHPSACKNTLSYSQDPEGNRIQQWV 180 VFVQTDKP YKPGQ + ++FF V +P L QDP+ NRI QW Sbjct: 121 VFVQTDKPIYKPGQS---VMFRVVALDFNFKPVQEMYP-----LIAVQDPQNNRIFQWQ 171 Query: 181 NEESVGGILQLSFQLISEPILGWYEITVEMLNEKKTYHSFSVEEYVLPKFQMTVDAPENI 240 I+Q+ F L EPILG Y+I V + ++T HSF VEEYVLPKF +TV AP ++ Sbjct: 172 NVTSEINIVQIEFPLTEEPILGNYKIIVTKKSGERTSHSFLVEEYVLPKFDVTVTAPGSL 231 Query: 241 LVVDSEFKVNVCALYTYGEPVDGKVQLSVCRESTAYHSCAHLISSLCKNFTIQLGKDGCV 300 V+DSE V +CA+YTYG+PV+GKVQLSVCR+ +Y C S +C++FT L DGC+ Sbjct: 232 TVMDSELTVKICAVYTYGQPVEGKVQLSVCRDFDSYGRCKK--SPVCQSFTKDLDTDGCL 289 Query: 301 SKFINTDAFEXNREGYWSFLKVHALVTEDGTGVQLTGSKYVYIDSSVVKISFENMDMSYK 360 S +++ FE NR GY L V A+VTE LT ++ + I Sbjct: 290 SHILSSKVFELNRIGYKRNLDVKAIVTEKEQVCNLTATQSISITQVMSSLQFENVDHHYR 349 Query: 361 QGLPYFGQIKLLNPDNSPIPNEVVQLHLKDKIVGNYTTDVNGIAQFFLDTYTFTYPNITL 420 +G+PYFGQIKL++ DNSPI N+V+QL + +K N+TTD+NGIA F +DT Sbjct: 350 RGIPYFGQIKLVDKDNSPISNKVIOLFVNNKNTHNFTTDINGIAPFSIDTSKIFDPELSL 409 Query: 421 KATYVRPKSCYLPSWLTPQYLDAHFLVSRFYSRTNSFLKIVPEPKQLECNHQKVVTVHYS 480 KA Y W+ P Y DA V R YS T+SF++I P K + C ++++TV+Y C+ Sbjct: 410 KALYKTSDQCHSEGWIEPSYPDASLSVQRLYSWTSSFVRIEPLWKDMSCGQKRMITVYYI 469 Query: 481 LNSEAYEDDSNVKFFYLMMVKGAILLSGQKEIRNKA-WNGNFSFPLSISADLAPAAVLFV 539 LN+E YE + V F+Y+ M KG I+L+G+ ++ +A NG F PL ++ +APA L V

Sbjct: 470 LNTEGYEHINIVNFYYVGMAKGKIVLTGEIKVNIQADQNGTFMIPLVVNEKMAPALRLLV 529

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Query:	540	YTLHPSGEIVADSVRFQVDKCFKHKVNIKFSNEQGLPGSNASLYLQAAPVLFCALGAVDG Y LHP+ E+VADSVRF ++KCFK+KV ++FS +Q L SN SL ++AA FCA+ AVD	599
Sbjct:	530	YMLHPAKELVADSVRFSIEKCFKNKVQLQFSEKQMLTTSNVSLVIEAAANSFCAVRAVDK	589
Query:	600	NVLLLKSEQQLSAESVSSLTSSXYGYFYHGLNLDDGKEDPCIPQRDMFYNGLYYTPVS ++LLLKSE +LSAE++ +L GY ++GLNL+D +DPC+ D+F+ GLYY P++	657
Sbjct:	590	${\tt SMLLLKSETELSAETIYNLHPIQDLQGYIFNGLNLEDDPQDPCVSSDDIFHKGLYYRPLT}$	649
Query:	658	NYGDGDIYNIVRNMGLKVFTNLHYRKPEVCVMERRLPLPKPLYLETENYGPMHSVPSRIA + D+Y +R+MG+K FTN R+P VC R P +L H V +++	717
Sbjct:	650	${\tt SGLGPDVYQFLRDMGMKFFTNSKIRQPTVCTRETVRPPSYFLNAGFTASTHHVKLS}$	705
Query:	718	CRGENADYVEQAIIQTVRTNFPETWMWDLVSVDSSGSANLSFLIPDTITQWEASGFCVNG + ++ I++T+R FPETW+WD++ ++S+G A++S+ IPDTIT+W+AS FCV	777
Sbjct:	706	AEVAREERGKRHILETIREFFPETWIWDIILINSTGKASVSYTIPDTITEWKASAFCVEE	765
Query:		DVGFGISSTTTLEVSQPFFIEIASPFSVVQNEQFDLIVNAFSYLNTCVEISVQVEESQNY GFG+S TL QPFF+++ P+S++ E F + N F+YLN C++I+V + ES +Y	
Sbjct:		LAGFGMSVPATLTAFQPFFVDLTLPYSIIHGEDFLVRANVFNYLNHCIKINVLLLESLDY	
Query:		EANINTWKINGSEVIQAGGRKTNIWTIIPKKLGKVNITVVAESKQSSACPNEGMEQQKLN +A + + + +G + A RK+ +W I PK G V ++ AE+ AC E + +++	
Sbjct:		QAKLISPEDDGCVCAKIRKSYVWNIFPKGTGDVLFSITAETNDDEACEEEALRNIRID	
Query: Sbjct:		WKDTVVKSFLVEPEGIEKERTQSFLICTEGAKASKQGVLDLPNDVVEGSARGFFTVVGDI ++DT +++ LVEPEGI +E TQ+FLIC + S+ +DLP +VVEGS R F+VVGDI YRDTQIRALLVEPEGIRREETQNFLICMKDDVISQDVAIDLPTNVVEGSPRPSFSVVGDI	
Query:		LGLAMONL-VVLOMPYGGGEQNAALLASDTYVLDYLKSTEQLTEEVQSKAFFLLSNGYQR	
Sbict:		+G A+QN+ +LQMP+G GEQN L A + YVLDYL T QL+E+V+SK L +GYQ+ MGTAIONVHOLLOMPFGNGEONMVLFAPNIYVLDYLDKTROLSEDVKSKTIGYLVSGYOK	
3			
		QLSFKNSDGSYSVFWQQNQKGSIWLSALTFKTLERMKKFVFIDENVQKQTLIWLSSQQKT QLS+K+ DGSYS F ++++G+ WL+A +K+ +F++ID+NVQ QTLIWL+++QKT	
-		QLSYKHPDGSYSTFGIRDKEGNTWLTAFVYKSFAEASRFIYIDDNVQAQTLIWLATKQKT	
		SGCFKNDGQLFNHAWEGGDEEDISLTAYVVGMFFEAGLNSTFPALRNALFCLEAALDSGV GCF++ G L N+A +GG E ++SL+AY+ EAG + + +RNA +CLE A + +	
		DGCFQSTGILVNNAMKGGVENELSLSAYITIALLEAGHSMSHTVIRNAFYCLETASEKNI	
		TNGYNHAILAYAFALAGKEKQVESLLQTLDQSATKLNNVIYWERERKPKTEEFPSFIPWA T+ Y A++AYAF LAGK + ES L+ L +SA +++ YWE+ ++ E+ +	
Sbjct:	1124	TDIYTQALVAYAFCLAGKAEICESFLRELQKSAKEVDGSKYWEQNQRSAPEK-SHLLDHV	1182

Query: 1197 PSAQTEKSCYVLLAVI---SRKIPDLTYASKIVQWLAQQMNSHGGFSSNQVINVGLILIA 1253 S E + YVLLA++ +R DLT AS IVQW+ +Q NS+GGF+S Q V L +A

Sbjct: 1183 QSTDVEITSYVLLALLYKPNRSQEDLTKASAIVQWIIRQQNSYGGFASMQDTVVALQALA 1242

Query: 1254 ICGEEGLFSKNQNTVTFSSEGSSEIQF--NGHNRLLVQRSEVTQAPGQYTVDVEGRGCTF 1311

G S QN + +S+ + E F N NRLL+Q++ + Q PG+Y++ V G GC

Sbjct: 1243 AYGAATYNSVTQNVIKINSKNTFEKVFTVNNENRLLLQQTPLPQVPGKYSLTVNGTGCVL 1302

Query: 1312 IQATLKYNVLLPKKASGFSLSLEIVKNYSLT----VFDLTVNLKYTGIRNKSSMVVIDV 1366
IQ L+YN+ LP+ A GFSLS++ N S FD+ + YTG R+ S+MV+IDV

Sbjct: 1303 IQTALRYNIHLPEGAFGFSLSVQ-TSNASCPRDQPGKFDIVLISSYTGKRSSSNMVIIDV 1361

Query: 1367 KMLSGFTPTMSSIEELENKGQVMKTEVKNDHVLFYLENVF-GRADSFTFSVEQSNLVFNI 1425 KMLSGF P SS+++L + VM+ E K +HVL YL N+ R TFSVEQ +V +

Sbjct: 1362 KMLSGFVPVKSSLDQLIDDHTVMQVEYKKNHVLLYLGNILQKRRKEVTFSVEQDFVVTHP 1421

Query: 1426 QPAPGMVYDYYEKGRQATA 1444

+PAP +YDYYE A A

Sbjct: 1422 KPAPVQIYDYYETEEYAVA 1440

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Figure 3:

1 61 121 181	actttaagaa ctcggcttcc	tgactcagga ctgactagtg	taacacactg aatactggca agaacgtctg acttttctt	aaatctcctg ggctcctaga	catggatata acactgacct	tagtcccata gtatgtggat
241			tttcatctgt f h l			ttgcagtatg l q y
301	ttctgctgat v l l		ctacaagaag 1 q e			
361	ttaatctcac f n l	tgaatctgtt t e s v	gttttgacgg v l t		ctatggtgag n y g e	gtccagacca v q t
421			actggagaaa t g e			tttgaggttc f e v
481	ctcaggccag p q a		ctggcattta l a f			gccactctca a t l
541	acctggaaga n l e	gaggagatct e r r s	gtggcaatca v a i	gatccagaga r s r	gaatgtggtc e n v v	tttgtacaga f v q
601	ctgataaacc t d k		cctggacaga p g q		aaccttgagt k t l s	tcatatatta s y i
661	acattatttt n i i		tcagtatcca s v s	gtgatcaccc s d h	ttcagcatgc p s a c	aaaaatacac k n t
721	tttcttattc l s y		gaaggcaatc e g n		gtgggtgaat q w v n	gaggagtctg e e s
781			tccttccagt s f q			ggatggtatg g w y
841	aaatcaccgt e i t	ggagatgctc v e m l	aatgagaaga n e k			
901	atgtgttacc y v l		atgactgtgg m t v			gttgtggact v v d
961			tgtgccttat c a l			gacgggaagg d g k
1021			gaatctacgg e s t			cttatcagtt l i s
1081			attcagttgg i q l			aagtttatta k f i
1141			aatcgggaag n r e			gtgcatgctc v h a
1201			ggtgtgcagc g v q			tacatagact y i d

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1261 catcagtggt gaagattagt tttgagaata tggatatgtc ctacaaacag ggactccctt ssv v k i s f e n m d m s y k q 1321 attttggcca gattaaattg cttaatccag acaactctcc aatcccaaat gaagttgttc y f g q i k l l n p d n s p i p n agttgcatct gaaggacaaa atcgtgggaa actacaccac agatgtaaat ggcatcgctc qlh lkdk i v g n y t t d v n g i a agtttttctt ggacacatat acgtttacat acccaaatat cactttgaaa gccacatatg ldty tft ypn itlk aty ttcgacctaa gagctgctat cttcccagct ggttgacgcc tcagtacttg gatgctcact vrp kscylps wlt pqyl tottagtoto acgottttac toccgaacga acagottoot gaagattgtt ccagaaccaa flv srfy srt nsflkiv pep agcagettga atgtaatcae cagaaggttg ttactgtgca ttacteecta aacagtgaag ecnhqkv v t v h y s l catatgagga tgattccaat gtaaagttct tctatttgat gatggtaaaa ggagctatct ddsn v k f f y l m m v k g a i tactcagtgg acaaaaggaa atcagaaaca aagcctggaa tggaaacttc tcgttcccac lls g q k e i r n k a w ngnfsfp tcagcatcag tgctgatctg gctcctgcag ccgtcctgtt tgtctacacc cttcacccca lsi sadlapa avl fvyt lh p gtggggaaat tgtggctgac agtgtcagat tccaggttga caagtgcttt aaacacaagg ivad svr fqv dkcf khk ttaacataaa gttctctaac gagcagggct tacctggttc caatgctagt ctctatcttc vni kfsneqglpgsnaslyl aagcggcgcc tgtcttattc tgtgccctcg gggctgtgga tgggaacgtc cttctactga pvlf calgav dgnv lll aatctgaaca acagctgtca gctgaaagtg taagctctct gacttcctcc ccgtatggtt k se qqls aes vss ltss pyg atttctacca tggcctcaat cttgatgatg gcaaggaaga cccttgcatt cctcagaggg y f y h g l n l d d g k e d p c i p q r atatgtteta caatggttta tattacacae etgtaagcaa etatggggat ggagatatet dmf yngl yyt pvs nygdgdi ataatattgt caggaacatg ggtctcaaag tctttaccaa tctccattac cgaaaaccag vrnm glk vft nlhy r k p aagtatgtgt gatggagaga aggetgeeae teectaagee getttateta gaaacagaaa evc vmer rlp l p k p l y l e t e 2341 attatggtcc aatgcatagt gttccgtcta gaattgcatg tagaggggag aatgctgact p m h s v p s r i a c r g e n a d n y q 2401 atgtagaaca ggctataatt caaacagtaa gaacaaactt cccagagaca tggatgtggg y ve qaii qtv rtn fpet w m w

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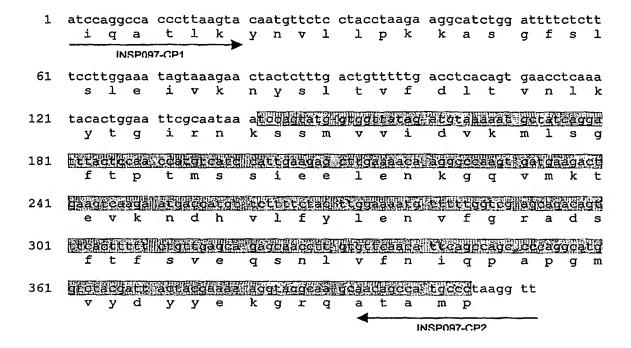
2461					gttcctcatt s f l i	
2521	taacccaatg i t q				cgttggattt d ⊽ g f	
2581			tcccaacctt s q p		aattgcctca e i a s	cccttttcgg p f s
2641					cagctacctg f s y l	aatacatgtg n t c
2701					agcaaatatt e a n i	
2761	aaatcaatgg k i n		attcaagctg i q a		aacaaacatc k t n i	tggactatta w t i
2821					tgagtccaaa a e s k	caaagcagtg q s s
2881					gaaagacact w k d t	gtggtcaaaa v v k
2941	gcttcttagt s f l				ccagagtttc t q s f	
3001					gccaaatgat l p n d	
3061	ggtcagccag g s a		actgttgtgg t v v		aggacttgcc l g l a	atgcagaatc m q n
3121		ccaaatgccc l q m p			tgctgcccta n a a 1	ctagcatctg l a s
3181					gacagaggaa l t e e	gttcaatcta v q s
3241	aggctttctt k a f			aaaggcaatt q r q	atctttcaaa l s f k	aactctgatg n s d
3301					catatggctc s i w l	agtgctctta s a l
3361		attggagaga t l e r			tgatgaaaat i d e n	gttcaaaaac v q k
3421					ctgctttaag g c f k	aatgatggcc n d g
3481	agcttttcaa q l f	ccacgcctgg n h a w	gagggtggag e g g	atgaagagga dee	catttcactc d i s l	actgcatatg t a y
3541					tcctgctcta f p a l	cgaaacgcac r n a
3601	tcttttgcct l f c				tggctacaat n g y n	catgcaattc h a i

3661	tagcttatgc l a y	ttttgcctta a f a 1	gctggaaaag a g k	agaagcaagt e k q	ggaatcttta v e s l	ctccaaaccc l q t
3721	tggatcaatc l d q	tgccacaaaa s a t k	ctaaataatg l n n	tcatctactg v i y	ggaaagagaa w e r e	aggaaaccca r k p
3781	agacagaaga k t e	atttccatcc e f p s	tttattccct f i p		tgctcagact s a q t	
3841	gctatgtgct c y v	gttggctgtc l l a v	atttcccgga i s r	aaattcctga k i p	cctcacctat d l t y	gctagtaaga a s k
3901			cagatgaatt q m n			
3961	ttaatgtagg i n v	cctgatatta g l i l	atagcaatat i a i	gcggggaaga c g e	ggggctcttc e g l f	tctaagaatc s k n
4021	aaaacactgt q n t	cacctttagc	agtgaaggat s e g	ccagtgagat s s e	ccagtttaac i q f n	ggtcataacc g h n
4081		ccaacgttca v q r s	gaagtaacac e v t		acaatacaca g q y t	
4141	aaggacgcgg e g r	ttgtacattt g c t f	i qa	t l k	caatgttctc y n v l	ctacctaaga l p k
			INSPO	97-CP1		
4201	aggcatctgg k a s	attttctctt g f s l		tagtaaagaa	ctactctttg n y s l	actgtttttg t v f
4201 4261	k a s	g f s l	tccttggaaa sle	tagtaaagaa i v k	n y s l	t v f
	k a s acctcacagt d 1 t	g f s l gaacctcaaa v n l k	tccttggaaa sle tacactggaa ytg	tagtaaagaa i v k ttcgcaataa i r n	n y s l atcasquate k s s m	t v f
4261	k a s acctcacagt d l t argtgaagat d v k	g f s l gaacctcaaa v n l k cctatcaggs m l s g	tccttggaaa s 1 e tacactggaa; y t g	tagtaaagaa i v k ttcgcaataa i r n catotcate t m s	n y s l attoadtatu k s s m cottoagag s i e e	t v f
4261	k a s acctcacagt d l t aretgaagat d v k argoccaagt k g q	g f s l gaacctcaaa v n l k cctatcaggs m l s g gargaagact v m k t	tccttggaaa s l e tacactggaa; y t g ttacactgaa; y t g ttacacaa; f t p taaattaag; e v k	tagtaaagaa i v k ttcgcaataa i r n catgtate t m s atgaccatgu n d h	n y s l atcoagtato k s s m coltragge s i e e tottetete v l f y	t v f
4261 4321 4381	k a s acctcacagt d l t aretsaaaat d v k arggccaagt k g q	g f s l gaacctcaaa v n l k sctatcaggs m l s g gargaagac v m k t	tccttggaaa s l e tacactggaa; y t g ttactccaag f t p tcactttt	tagtaaagaa i v k ttcgcaataa i r n t m s atgacaaga t m s atgacaaga	n y s l atcasquage k s s m coltasages s i e e tolteteles v l f y gaggaacett q s n l	t v f GEGGGTATAG v v i Cttoaaaaca l e n ttgaaaatg l e n dtgttcaaca v f n
4261 4321 4381 4441	k a s acctcacagt d l t aretgaaaat d v k arggccaagt k g q v f g tcagcag i q p	g f s l gaacctcaaa v n l k sctatcagg m l s g gacgaagaci v m k t sccagacagi r a d s	tccttggaaa s 1 e tacactggaa; y t g t t p taagtcaage e v k tcactttt f t f	tagtaaagaa i v k ttcgcaataa i r n t m s atgacaaga n d h ttsttgaca s v e actacgaaaa	n y s l atcaadat k s s m cattaaaaag s i e e cattataa v l f y caggaacett q s n l aggtagaa	t v f GEGGGTATAG v v i Cttoaaaaca l e n ttgaaaatg l e n dtgttcaaca v f n

xxx = INSP097 predicted receptor binding domain.

Position and sense of PCR primers-

Figure 4:



= INSP097 predicted receptor binding domain.

Position and sense of PCR primers ————

Figure 5:

Type Start End Name Description	Molecule:	pCR4-TOPO-INSP097-CP	P1/-CP2, 4369 bps DNA Circular
	Type Start	End Name	Description
MARKER 243 T3 T3 priming site REGION 295 706 Insert INSP097-CP1/-CP2 PCR product	REGION 295 GENE 295 MARKER 295 MARKER 706 MARKER 759 MARKER 782 GENE 1571 GENE 2569	706 Insert 699 cds CP1 CP2 C T7 C M13F C 2365 Kan 3429 Amp	INSP097-CP1/-CP2 PCR product INSP097 receptor binding domain cds INSP097-CP1 PCR primer INSP097-CP2 PCR primer T7 priming site M13 for priming site Kanamycin resistance gene ORF Ampicillin resistance gene ORF

